

What is claimed as new and desired to be protected
by Letters Patent is set forth in the appended claims.

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A2 1. An electrical device with the casing (1,20,44,52) of the ignition protection kind flame proof enclosure "d" comprising

two casing parts (2,3,23,24, 45, 56) having wall parts (5,6,21, 22, 48, 55), wherein the wall parts (5,6,21, 22, 48, 55) disposed toward each other;

a profile clamp (4,29, 46, 53) connecting the casing parts (2,3,23,24, 45, 56) shape matching against the force of an explosion like internal pressure of the casing;

a slot (7, 28) safe against ignition punch furnished between the wall parts (5,6,21, 22, 48, 55) and the profile clamp (4,29, 46, 53).

2. The electrical device according to claim 1, wherein the profile clamp (4,29, 46, 53) exhibits a cross-section of about C-shape.

3. The electrical device according to claim 1, wherein the profile clamp (4,29, 46, 53) exhibits a base web (8,30) and two side webs (9,10,31, 32, 47, 54), wherein the one side web (9, 32, 54) corresponds to the one casing part (2,24, 56) and wherein the second side web (10,31, 47) corresponds to the second casing part (3,23, 45).

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4. The electrical device according to claim 3, wherein the side webs (9,10,31, 32, 47, 54) of the profile clamp (4,29, 46, 53) disposed at a distance relative to each other are disposed at one and the same side of the base web (8,30) preferably having a rectangular cross-section under an angle, and (preferably) essentially are disposed at the right angle relative to the rectangle base web (8,30).

5. The electrical device according to claim 3, wherein an ignition punch safe supplemental slot (17, 40, 51, 59) is formed between a stop face (15,38,49,57) of the side webs (9,10,31, 32, 47, 54) of the profile clamp (4,29, 46, 53) and the support face (16,39,50,58) of the casing parts (2,3,23, 24, 45, 56).

6. The electrical device according to claim 5, wherein the stop face (15,38) of the side web (9,10,31, 32) of the profile clamp (4,29) and the support face (16,39), the casing part (2,3,23, 24) as well as the ignition punch safe supplemental slot (17, 40) are disposed in parallel to the ignition punch safe slot (7, 28).

7. The electric device according to claim 5, wherein the stop face (57) of the side web (54) of the profile clamp (53) and the support face (58) of the casing part (56) as well as the ignition punch safe supplemental slot (59) are disposed inclined relative to the ignition punch safe slot (7, 28).

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8. The electrical device according to claim 5 further comprising an ignition punch safe supplemental slot (17, 40, 59) disposed between the stop face (15, 38, 57) of the side web (9, 10, 31, 32, 54) and the support face (16, 39, 58) of the casing part (2, 3, 23, 24, 56) and being shorter than the ignition punch safe slot (7, 28) between the two casing parts (2, 3, 23, 24, 45).

9. The electrical device according to claim 8, wherein the length of the ignition punch safe supplemental slot (51) between the stop face (49), the side web (47) and the support face (50) of casing part (45) is equal to or larger than the ignition punch safe slot (7) between the two casing parts (2, 45).

10. The electrical device according to claim 1, wherein at least one part of the profile clamp (4,29, 46, 53) is supported in a recess of the casing part (2,23, 24).

11. The electrical device according to claim 1, wherein a face (13,37) of a base web (8,30) of the profile clamp (4,29, 46, 53) together with an outer side (14,36) of at least one of the casing parts (2,23, 24, 56) forms a substantially common plane.

12. The electrical device according to claim 1, wherein an inner face (11,33) of a base web (8,30) of the profile clamp (4,29, 46, 53) disposed toward the casing (1,20,44,52) is disposed parallel to a rest face (12,34) of the casing part (2,3,23, 24, 56).

13. The electrical device according to claim 1, wherein a distance is formed between an inner face (11,33) of a base web (8,30) of the profile clamp (4,29, 46, 53) and a rest face (12,34) of the casing parts (2,23, 24, 56), wherein the distance is preferably less than one mm.

14. The electrical device according to claim 1 further

comprising

an additional wall (25) disposed between the two wall parts (23, 24) of the casing (20).

15. ~~The electrical device according to claim 14 further comprising~~

~~an ignition punch safe slot (28) formed between the wall part (21, 22) of the casing (20) and one side face (26, 27) of the additional wall (25).~~

16. The electrical device according to claim 14, wherein a front face (35) of the additional wall (25) borders at an inner face (33) of the profile clamp (29).

17. ~~The electrical device according to claim 1, wherein ends of two profile clamps (4, 29, 46, 53) abut to each other in a casing corner region such that a planar or nonplanar ignition punch safe profile slot (43, 60) is formed.~~

18. The electrical device according to claim 1, wherein a profile is formed at at least one end of the profile clamp (4, 29, 46, 53) and wherein at an end of a second profile clamp (4, 29, 46, 53), in each case a profile is formed out

of projections (41) and recesses (42), wherein the projections (41) of the one profile clamp (4,29, 46, 53) engage into the recesses (42) of the other profile clamp (4,29, 46, 53) and wherein an ignition punch safe profile slot (43) is formed between the projections (41) and the recesses (42).

19. The electrical device according to claim 1, wherein projections (41) and the recesses (42) of the profile clamp (4,29, 46, 53) are formed as teeth or, respectively, tooth gaps and are (preferably) of triangular shape.

20. The electrical device according to claim 1, wherein an ignition punch safe profile slot (43) is formed as a 45 degrees mitre joint in a corner region of the profile clamp.

21. The electrical device according to claim 1, wherein a corner region of the profile clamp is formed polygonal and exhibits at least two ignition punch safe profile slots (43).

22. The electrical device according to claim 1, wherein the profile clamp (4,29, 46, 53) with the base web (8,30)

and the ~~side~~ webs (9,10,31, 32, 47, 54) are produced as a single piece of a uniform material.

23. The electrical device according to claim 1, wherein the profile clamp (4,29, 46, 53) is fixed non-losable at at least one of the casing parts (2,3,23, 24, 45, 56).